

Remarks/Arguments:

Claims 1-10, 12-15, 17, and 18 are pending in the present application.

Claims 1-10, 12-15, 17, and 18 stand rejected under 35 U.S.C. §§ 102(b)/103(a) as being anticipated by, or alternatively unpatentable over, Wilkinson et al. (U.S. Patent No. 5,795,669) and Katz et al. (U.S. Patent No. 4,552,857). For the reasons set forth below, Applicants respectfully disagree with this rejection.

Applicants' invention, as recited by claim 1, includes features neither disclosed nor suggested by the art of record, for example:

said first catalytic component comprises one or more
electrocatalyst(s) . . . and . . . said second catalytic
component comprises one or more electrocatalyst(s) . . .

This means that the electrode structure of claim 1 includes first and second catalytic components, both of which comprise one or more electrocatalysts. The present application defines electrocatalysts as "[c]atalysts which promote the rates of electrochemical reactions, such as oxygen reduction and hydrogen oxidation in a fuel cell." (See originally filed application, page 2, lines 11-12).

Wilkinson, like the present application, defines electrocatalysts as "[c]atalysts which promote the rates of electrochemical reactions, such as oxygen reduction and hydrogen oxidation in a fuel cell." (See Wilkinson, column 1, lines 43-46). Wilkinson discloses an electrode with two catalytic components; however, Wilkinson does not disclose that both of the first and second catalytic components comprise one or more electrocatalysts, as in claim 1 of the present invention.

More specifically, Wilkinson discloses an electrode that comprises a first and a second catalytic component, where the second catalytic component comprises an electrocatalyst; however, the first catalytic component of the electrode does not comprise an electrocatalyst. The structure of the first catalytic component (i.e., not comprising an electrocatalyst) is emphasized throughout Wilkinson. For example, claim 1 of Wilkinson provides that "the first catalytic component is active at gas-phase reaction sites." Further,

Wilkinson provides that "the first catalytic component treats a reactant gas stream to reduce the concentration of poisoning species." (See Wilkinson, column 4, lines 66-67).

Thus, Wilkinson discloses an electrode with a first catalytic component comprising a catalyst for promoting gas phase reactions, and a second catalytic component comprising an electrocatalyst. As such, the structure of the electrode disclosed in Wilkinson is very different from the electrode recited in claim 1 of the present application. Further, the focus of Wilkinson is to provide an electrode with a gas phase catalytic component and an electrocatalyst component in order to provide an improved tolerance to poisons (See, e.g., Abstract, column 4, lines 43-55). Thus, there is clearly no motivation to replace the gas phase catalytic component in Wilkinson with a further electrocatalyst component.

Claim 1 also recites that "said first catalytic component comprises one or more electrocatalyst(s) of formula Pt-Y, wherein Y is Mo, W or an oxide of Mo or W." This feature is neither disclosed nor suggested by Wilkinson. The Office Action indicates that "Wilkinson does not have a specific teaching where the first catalytic component is Pt-Y, wherein Y is Mo, W or an oxide of Mo or W . . . [h]owever, the invention as a whole would have been obvious because . . . Wilkinson teaches the catalytic components . . . are independently selected from the group consisting of platinum group metals, gold, silver, base metals, base metal oxides and *alloys or mixtures of one or more of these metals*." The Office Action further indicates that "[b]ase metals include Co, Ni, Mo, molybdate or tungstate . . . [and thus] Wilkinson at least suggests the first catalytic component may have the formula Pt-Y wherein Y is Mo, W or an oxide of Mo or W." (See Office Action, page 4). Applicants respectfully disagree.

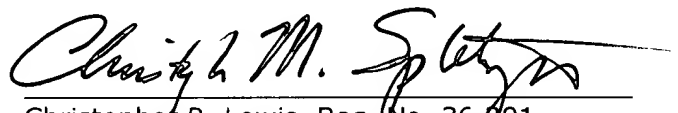
By indicating that "catalytic components . . . are independently selected from the group consisting of platinum group metals, gold, silver, base metals, base metal oxides and *alloys or mixtures of one or more of these metals*," Wilkinson does not disclose or suggest a first electrocatalyst comprising one or more electrocatalyst(s) of formula Pt-Y catalysts wherein Y is Mo, W or an oxide of Mo or W. Base metals are defined as "those not classed as noble or precious." (See online Oxford English Dictionary). Therefore, the disclosure of "base metals" is a disclosure of a very broad range of metals, and is not a disclosure or suggestion of Mo or W. Wilkinson includes no motivation or suggestion for the skilled person to select Mo or W as a base metal for the catalytic component. Thus, claim 1 is clearly distinguished from Wilkinson for this additional reason.

The Office Action also cites Giallombardo et al. (U.S. Patent No. 6,165,636) for teaching Pt-Mo alloys for use as catalysts; however, Giallombardo does not disclose or suggest an electrode structure comprising first and second catalytic components wherein both components comprise one or more electrocatalyst(s). Thus, neither Giallombardo (nor Katz) make up for the deficiencies of Wilkinson with respect to claim 1.

Accordingly, for the reasons set forth above, claim 1 is patentable over the art of record. Claim 10, while not identical to claim 1, includes features similar to those recited above with respect to claim 1. Therefore, claim 10 is also patentable over the art of record for the reasons set forth above. Each of claims 2-9, 12-15, 17, and 18, depend from one of claims 1 and 10. Thus, claims 2-9, 12-15, 17, and 18 are also patentable over the art of record for the reasons set forth above.

In view of the arguments set forth above, the above-identified application is in condition for allowance which action is respectfully requested.

Respectfully submitted,



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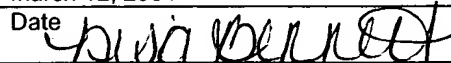
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